Washington Transportation Plan Update

Phase 2 Workshop

Health and the Environment

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June 15, 2005

Washington State Department of Transportation

Health and the Environment

How can transportation investments be developed, implemented, and used in ways that at the same time enhance our citizens' transportation goals and our citizens' goals for healthy communities and a well-protected environment?

Health and the Environment

Guiding Principles (Statutory and Commission Policy)

Protect and enhance the environment, promote energy conservation, and improve quality of life. **(23 CFR 135)**

Consider the direct, indirect, and cumulative impacts of an action (project) that involves federal approval or funding. (**40 CFR 1508.7 NEPA and 50 CFR 402.02)**

Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development. **(RCW 36.70A.020)**

Evaluate consistency of transportation projects and regional plans using environmental review process. **(RCW 43.21)**

Promote environmental protection and energy conservation. Protection of the state's natural environment; including conservation of energy resources **(RCW 47.05.051; RCW 47.05.010 and RCW 47.05.030)**

Commission:
Integrated community design, land use, and transportation investments improve quality of life.

Transportation services and facilities: meet air and water quality standards, maintain habitat and watershed quality and connectivity, and reuse and recycle resource materials.

Integrate decisions on land use development and transportation investment so that needed transportation facilities and services are provided concurrently with growth.

Centennial Accord and Secretary of Transportation Executive Order 1025.00

Establishes WSDOT's commitment to government-to-government consultation with Tribes.

West Coast Governor's Global Warming Initiative
Develop strategies to address five issues (low emission vehicle procurement, ports and highway diesel emissions, renewable energy, energy efficiency, and performance measurement).

What does this mean?

The Department of Transportation acknowledges the state's vital interests in protecting and preserving natural resources and other environmental assets and its citizens' health and safety. These interests must be integrated with other vital interests.

WSDOT environmental policy commits us:

- To comply with all environmental laws and regulations applicable to our business and activities.
- To make every reasonable effort to also protect the cultural and historic resources of the state.

WSDOT coordinates with representatives of local, state, tribal, and federal agencies and the public to meet these goals.

Health and the Environment

The ongoing delivery of transportation projects and programs includes addressing environmental and community issues:

- Support clean air, land and water
- Protect cultural resources
- Improve environmental mitigation
- Improve environmental review and compliance
- Engage the public and tribal, local, state and governments
- Support local agencies
- Support bike and pedestrian safety
- Implement efficiencies and measure performance

Moose Creek

Before Construction

Figure 17. Two round, corrugated steel culverts located on SR 530 at milepost 44.0 were considered barriers due to a slope of 1.7%. The culverts blocked access to 4,151 meters of coho salmon and steelhead trout habitat.

After Construction

Figure 18. A large bottomless arch culvert replaced two round steel culverts. The streambed of the new culvert resembles the natural stream substrate providing fish passage at all flow conditions. A single downstream log control maintains a stable stream gradient throughout the crossing. The new culvert was constructed in 2002.

Beyond the routine work that will continue, emerging trends identified early in the Washington Transportation Plan update point to specific investment and policy needs:

- Improve air quality and reduce emissions
- Enhance bicycle and pedestrian connections and safety
- Improve consultation with Tribes on natural and cultural resources
- Enhance “environmental retrofit” programs (stormwater, noise, stream banks, fish passage)
- Connect habitats
- Improve roadside vegetation

Health and the Environment: Reality Check

Issues Addressed to Some Degree by the 2005 Legislature

- New Revenue Package provides funds to:
  - Remove fish passage barriers
  - Fix chronic stream bank failures that threaten roads
  - Add noise walls to reduce noise next to existing highways
  - Improve stormwater treatment and control facilities
  - Expand “Safe Routes to Schools” to include other pedestrian and bicycle safety issues
- Legislative Direction:
  - Adopt California Clean Car Standards (reduce vehicle emissions)
  - Require local comprehensive plans to include measures supporting healthy communities

Issues Not Addressed by the 2005 Legislature

- Dedicated funding to complete the stormwater outfall inventory
- A new investment program to support habitat connectivity
- Funding to retrofit existing highway shoulders with roadside vegetation

Health and the Environment

Emissions Reduction

Type of Proposal	
☐	Policy
☑	Strategy
☐	Capital
☑	Operating

Expected Benefits	
☐	Preservation
☐	Safety
☐	Transportation Access
☐	System Efficiencies
☐	Future Visions
☐	Bottlenecks & Chokepoints
☐	Moving Freight
☐	Economy
☑	Health & Environment

What is the Problem?

Emissions associated with transportation are major sources of local air pollution and greenhouse gases. Over the next several years, WSDOT and other state agencies will need to work together to develop and implement strategies to achieve cleaner fleets.

2005 Legislative Action

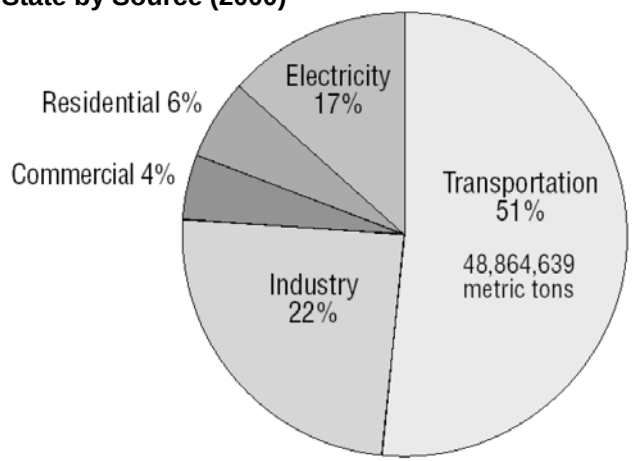
Emissions bill passed.

Description of Proposal

Develop a strategy and continue close coordination with Governor's Office. Initial ideas to reduce emissions from state vehicle and equipment fleets and state facilities include:

1. Seek funding to retrofit and replace older diesel on- and off-road equipment.
2. Increase low emission fleet purchase and lease options.

Carbon Dioxide (CO2) Emissions in Washington State by Source (2000)



Source: Washington State University Energy Program

Description of Benefits/Impacts of Implementing the Proposal

Strategic investments will help reduce toxic emissions and improve fuel efficiency of state fleets.

Related topic:

New Technologies and Alternative Fuels

Our current highways and ports are not yet adapted to the cars, trucks and marine fleets of the future.

For instance, we will likely see more alternative fuel vehicles, hybrids, electric, hydrogen-fueled vehicles on the highways. Truckers and shippers might seek “shore power” or anti-idling stations where they can turn off diesel engines and still run essential equipment.

How can we meet needs of new types of vehicles, such as those relying on ethanol or hydrogen? How can we create viable transportation funding system given these technological advances?

To address this issue, we need to develop a strategy in close coordination with the Governor’s Office, Washington State Department of Community, Trade and Economic Development, and others.

Health and the Environment

Healthy Communities and Comprehensive Plans

Type of Proposal	
☐	Policy
☑	Strategy
☐	Capital
☑	Operating

Expected Benefits

- ☐ Preservation
- ☐ Safety
- ☐ Transportation Access
- ☐ System Efficiencies
- ☐ Future Visions
- ☐ Bottlenecks & Chokepoints
- ☐ Moving Freight
- ☐ Economy
- ☑ Health & Environment

What is the Problem?

Much of the funding available for bicycle and pedestrian improvements and other transportation investments supporting livable communities requires consistency with local comprehensive plans. Historically, local agencies were not required to include information about bicycle and pedestrian facilities or other projects supporting healthy communities in their comprehensive plans.

2005 Legislative Action

Recent changes to the Growth Management Act (GMA) partially meet this need by requiring projects and programs that support healthy communities to be part of comprehensive plans. No funding to meet this requirement was provided.

Description of Proposal

Increase funding and technical support to local agencies to help them meet the new requirements of GMA. This will allow local agencies to identify policies and projects in comprehensive plans that support healthy communities.

Description of Benefits/Impacts of Implementing Proposal

This new requirement promotes policy and planning efforts that increase access to inexpensive or free opportunities for regular exercise in all communities around the state and create communities where people find it easy and safe to be physically active.

Health and the Environment

Pedestrian and Bicycle Safety Improvements

Type of Proposal	
☐	Policy
☐	Strategy
☑	Capital
☐	Operating

Expected Benefits	
☐	Preservation
☑	Safety
☐	Transportation Access
☐	System Efficiencies
☐	Future Visions
☐	Bottlenecks & Chokepoints
☐	Moving Freight
☑	Economy
☑	Health & Environment

What is the Problem?

In Washington, bicyclist and pedestrian fatalities are 14 percent of all transportation related fatalities. This is disproportionately high considering that walking and biking account for 5 percent of all trips. Most of these fatalities (over 60 percent) in Washington occurred on arterial roads. Half of these fatalities occurred where there were no marked crossings, and 8 percent occurred in locations without sidewalks.

For bicycles, the problem is lack of accommodation and few connections (no shoulder, bike lane, or trail). There is a lack of safe crossings, sidewalks, bicycle touring routes, and trails.

2005 Legislative Action

$74 million over 16 years (roughly half the need currently identified in comprehensive plans).

Description of Proposal

Expand the existing ***Safe Routes to Schools*** program based on information from the pilot projects currently underway. Create a Pedestrian and Bicycle Safety Program focused on filling gaps and making intermodal connections with input from local agencies through the Regional Transportation Planning Organizations, the Target Zero Study, and WSDOT's Bicycle and Pedestrian Advisory Committee.

Description of Benefit/Impacts of Implementing the Proposal

Improves safety for bicycle and pedestrians for the entire state transportation system. Provides support for healthy and livable communities, and helps stimulate economic development.

Health and the Environment

Path and Trails Investment Strategy

Type of Proposal	
☐	Policy
☑	Strategy
☐	Capital
☐	Operating

Expected Benefits	
☐	Preservation
☑	Safety
☐	Transportation Access
☐	System Efficiencies
☐	Future Visions
☐	Bottlenecks & Chokepoints
☐	Moving Freight
☑	Economy
☐	Health & Environment

What is the Problem?

Limited resources are available for paths, trails, sidewalks, and crossings. Resources need to be directed more strategically to projects that support healthy, livable communities and improve safety.

2005 Legislative Action

None

Description of Proposal

Develop a strategy for prioritizing paths and trails investments, consistent with state law, that is similar to the current project selection process for state pedestrian program investments.

Description of Benefits/Impacts of Implementing the Proposal

In addition to supporting healthy and livable communities, these strategy changes will improve the safety and mobility for pedestrians, and bicyclists, as well as the motoring public. These changes will also improve coordination between local comprehensive plans and the Washington Transportation Plan.

Health and the Environment

Tribal Consultation

Type of Proposal
☐ Policy
☑ Strategy
☐ Capital
☐ Operating

Expected Benefits
☐ Preservation
☐ Safety
☐ Transportation Access
☐ System Efficiencies
☐ Future Visions
☐ Bottlenecks & Chokepoints
☐ Moving Freight
☐ Economy
☑ Health & Environment

What is the Problem?

WSDOT often consults with at least three different tribal offices: planning, natural resources and cultural resources. We need to improve how we engage each office within a tribe at the proper time through various phases of project and program delivery.

2005 Legislative Action

None

Description of Proposal

WSDOT will improve implementation of the Centennial Accord by integrating tribal issues into major program areas. Develop a strategy and create additional guidance for WSDOT staff on how to consult with tribes on natural resource and cultural resource issues.

Description of Benefits/Impacts of Implementing the Proposal

Improved communication will identify issues early in project development so that project teams can reduce conflict or delay.

Health and the Environment

Fish Passage Barrier Retrofit

Type of Proposal	
☐	Policy
☑	Strategy
☑	Capital
☐	Operating

Expected Benefits	
☐	Preservation
☐	Safety
☐	Transportation Access
☐	System Efficiencies
☐	Future Visions
☐	Bottlenecks & Chokepoints
☐	Moving Freight
☑	Economy
☑	Health & Environment

What is the Problem?

Salmon and other fish need access to freshwater habitat for spawning and juvenile rearing. Undersized road culverts act as barriers, blocking fish from habitat.

A state program identifies and fixes fish passage barriers on state highways (recent funding boosts this program). There is currently no statewide program to identify and fix barriers on non-state roads.

2005 Legislative Action

$20 million for fish passage barriers on state highways.

Description of Proposal

Assess whether projected funding over the next 12 years for the Fish Passage Barrier Retrofit program will adequately cover the need on state facilities.

Develop a strategy to address barriers on tribal, county and city roads.

Description of Benefits/Impacts of Implementing the Proposal

Correcting fish passage barriers like roadway culverts is one of the most effective ways to improve streams for fish habitat conditions.

Health and the Environment

Fixing Chronic Stream Bank Failures

Type of Proposal	
☐	Policy
☐	Strategy
☑	Capital
☐	Operating

Expected Benefits	
☑	Preservation
☐	Safety
☐	Transportation Access
☐	System Efficiencies
☐	Future Visions
☐	Bottlenecks & Chokepoints
☐	Moving Freight
☑	Economy
☑	Health & Environment

What is the Problem?

At numerous locations along the state highway system, stream banks frequently flood or fail, damaging the roadway. Frequent and chronic maintenance and repairs to the state transportation infrastructure cause impacts to fish and/or fish habitat.

2005 Legislative Action

The Legislature provided $52 million to fund 10 retrofit projects.

Description of Proposal

Increase the level of funding to continue to identify and fix sites that are in need of long-term solutions to repetitive, high-cost maintenance.

Description of Benefits/Impacts of Implementing the Proposal

Expanding the program reduces maintenance costs for chronic repairs, reduces flooding risk, and improves habitat for important fish species.

Health and the Environment

Noise Barrier Retrofit

Type of Proposal	
☐	Policy
☐	Strategy
☑	Capital
☐	Operating

Expected Benefits	
☐	Preservation
☑	Safety
☐	Transportation Access
☐	System Efficiencies
☐	Future Visions
☐	Bottlenecks & Chokepoints
☐	Moving Freight
☑	Economy
☑	Health & Environment

What is the Problem?

The impact of traffic noise on neighborhoods throughout the state was not considered before May 1976, when noise regulations were put in place. WSDOT has developed a prioritized retrofit program to construct noise barriers in these locations, but it has been under-funded.

2005 Legislative Action

The legislature provided about $38 million to address several of the highest priority locations.

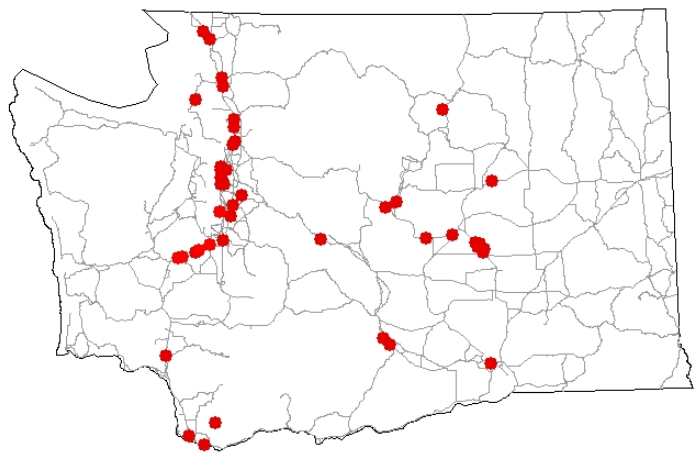
Description of Proposal

Dedicate consistent funding for the noise retrofit program. The retrofit priority list consists of 61 locations left in 20 different counties.

Description of Benefits/Impacts of Implementing the Proposal

Addressing the continued backlog of noise projects will benefit established neighborhoods and help to meet noise reduction goals.

Noise Barrier Retrofit Locations on State Highways



Source: WSDOT

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Stormwater Retrofit

Type of Proposal	
☐	Policy
☐	Strategy
☑	Capital
☐	Operating

Expected Benefits	
☑	Preservation
☐	Safety
☐	Transportation Access
☐	System Efficiencies
☐	Future Visions
☐	Bottlenecks & Chokepoints
☐	Moving Freight
☑	Economy
☑	Health & Environment

What is the Problem?

Most highways were built prior to stormwater regulations and have no treatment facilities associated with them. All new projects address stormwater, however, only a small amount of funds are applied to retrofit old stormwater facilities where no new construction is planned. There is also a lack of information about the outfalls on the state system. At the current rate of construction it will take more than a century to fix all of the roads lacking adequate treatment facilities.

2005 Legislative Action

The 2005 Legislature funded several stormwater retrofit projects ($7.6 million for 8 projects).

Description of Proposal

Increase the funding for the stormwater retrofit program to complete the outfall inventory and fund more retrofit projects.

Description of Benefits/Impacts of Implementing the Proposal

Improving the performance of highway drainage facilities will improve water quality and reduce damage to the highway system from stormwater.

A complete inventory of outfalls and treatment facilities will help WSDOT better plan, execute and maintain an effective stormwater program.

Health and the Environment

Habitat Connections

Type of Proposal	
☐	Policy
☐	Strategy
☑	Capital
☐	Operating

Expected Benefits	
☐	Preservation
☑	Safety
☐	Transportation Access
☐	System Efficiencies
☐	Future Visions
☐	Bottlenecks & Chokepoints
☐	Moving Freight
☐	Economy
☑	Health & Environment

What is the Problem?

Transportation systems have the potential to impact habitat in ways that include:

- Direct effects such as noise disturbance or wetland fill.
- Habitat fragmentation.
- Barrier effects that impede the movement of fish and wildlife.
- Vehicle-wildlife collisions.

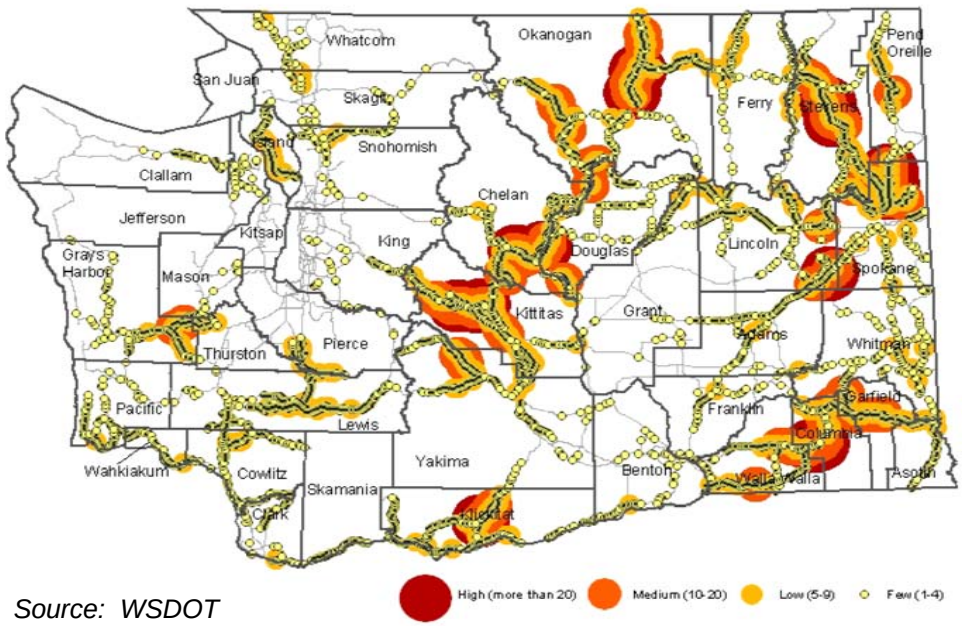
WSDOT recognizes the importance of habitat connections at the policy level. Funding for program support is needed to more consistently consider habitat connection as part of transportation planning, design, and construction.

2005 Legislative Action

None

Deer & Elk Removed From State Highways

1998 to 2003



Source: WSDOT

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Habitat Connections (*continued)*

Type of Proposal	
☐	Policy
☐	Strategy
☑	Capital
☐	Operating

Expected Benefits	
☐	Preservation
☑	Safety
☐	Transportation Access
☐	System Efficiencies
☐	Future Visions
☐	Bottlenecks & Chokepoints
☐	Moving Freight
☐	Economy
☑	Health & Environment

Description of Proposal

Funding identification and prioritization of problem areas, development of design guidance, and coordination with agencies for connectivity planning.

Description of Benefits/Impacts of Implementing the Proposal

Careful analysis will help WSDOT determine the highest priority locations where investments should be made. This proposal would create dual benefits: protect wildlife and improve the safety of the traveling public.

I-90 near North Bend: Fencing and a wider under-crossing are used to provide access for species movement under the freeway.

Health and the Environment

Integrated Vegetation Management

Type of Proposal	
☐	Policy
☑	Strategy
☐	Capital
☑	Operating

Expected Benefits	
☐	Preservation
☐	Safety
☐	Transportation Access
☐	System Efficiencies
☐	Future Visions
☐	Bottlenecks & Chokepoints
☐	Moving Freight
☑	Economy
☑	Health & Environment

What is the Problem?

Citizens are increasingly calling for WSDOT to reduce or eliminate herbicide use. Most herbicides are used on the road shoulder adjacent to the edge of pavement. Road shoulders are usually comprised of gravel or poor quality soil that won't sustain grass but are hospitable to noxious weeds. Herbicide use can be reduced if grasses are maintained on road shoulders.

2005 Legislative Action

None

Description of Proposal

Provide funding to retrofit existing highway shoulders with good quality topsoil, compost, or other soil amendments and establish desirable grass stands.

Description of Benefits/Impacts of Implementing the Proposal

Road shoulders would require less maintenance and herbicide use due to the presence of desirable grasses. Grass shoulders also filter contaminants from stormwater runoff providing water quality benefits.